

IN THE CLAIMS:

Amend the claims of the application as set forth below:

1. (Previously presented) Fly ash characterized by
  - a. substantially uniform spherical shape;
  - b. greater than about 90% of the particles have a diameter of less than 11  $\mu\text{m}$ , greater than about 60% of the particles have a diameter of less than 5.5  $\mu\text{m}$ , and greater than about 15% of the particles have a diameter of less than 1.375  $\mu\text{m}$ ;
  - c. a median particle diameter of less than about 4.0  $\mu\text{m}$ ; and
  - d. a range of particle diameters of from about 0.1  $\mu\text{m}$  to about 70  $\mu\text{m}$ .
2. (Previously presented) The fly ash of claim 1, wherein greater than about 93% of the particles have a diameter of less than 11  $\mu\text{m}$ , greater than about 70% of the particles have a diameter of less than 5.5  $\mu\text{m}$ , and greater than about 18% of the particles have a diameter of less than 1.375  $\mu\text{m}$ .
3. (Previously presented) The fly ash of claim 1, wherein the median particle diameter is less than about 3.0  $\mu\text{m}$ .
4. (Previously presented) The fly ash of claim 1, wherein the range of particle diameters is from about 0.9  $\mu\text{m}$  to about 62  $\mu\text{m}$ .

5. (Previously presented) The fly ash of claim 1, wherein
  - a) greater than about 93% of the particles have a diameter of less than 11  $\mu\text{m}$ , greater than about 70% of the particles have a diameter of less than 5.5  $\mu\text{m}$ , and greater than about 18% of the particles have a diameter of less than 1.375  $\mu\text{m}$ ;
  - b) the median particle diameter is less than about 3.0  $\mu\text{m}$ ; and
  - c) the range of particle diameters is from about 0.9  $\mu\text{m}$  to about 62  $\mu\text{m}$ .
6. (Previously presented) The fly ash of claim 5, which is prepared by grinding unfractionated fly ash.
7. (Previously presented) A concrete comprising about 1 part by weight cementitious materials, about 1 to about 3 parts by weight fine aggregate, about 1 to about 5 parts by weight coarse aggregate, and about 0.35 to about 0.6 parts by weight water, wherein the cementitious materials comprise from about 10% to about 50% by weight the fly ash of claim 1 and about 50% to about 90% by weight cement.
8. (Previously presented) A concrete comprising about 1 part by weight cementitious materials, about 1 to about 3 parts by weight fine aggregate, about 1 to about 5 parts by weight coarse aggregate, and about 0.35 to about 0.6 parts by weight water, wherein the cementitious materials comprise from about 10% to about 50% by weight the fly ash of claim 5 and about 50% to about 90% by weight cement.
9. (Previously presented) The concrete of claim 7 further comprising silica fume.

10. (Previously presented) The concrete of claim 7 further comprising glass fibers.
11. (Previously presented) A mortar comprising about 1 part by weight cementitious materials, about 1 to about 3 parts by weight fine aggregate, and about 0.35 to about 0.6 parts by weight water, wherein the cementitious materials comprise from about 10% to about 50% by weight the fly ash of claim 1 and about 50% to about 90% by weight cement.
12. (Previously presented) A mortar comprising about 1 part by weight cementitious materials, about 1 to about 3 parts by weight fine aggregate, and about 0.35 to about 0.6 parts by weight water, wherein the cementitious materials comprise from about 10% to about 50% by weight the fly ash of claim 5 and about 50% to about 90% by weight cement.
13. (Previously presented) The mortar of claim 12 further comprising silica fume.
14. (Previously presented) The mortar of claim 12 further comprising glass fibers.
15. (Currently amended) Fly ash prepared by processing fly ash so as to shift the size distribution to have the following characteristics:
  - a) substantially uniform spherical shape;  
greater than about 90% of the particles have a diameter of less than 11  $\mu\text{m}$ , greater than about 60% of the particles have a diameter of less than 5.5  $\mu\text{m}$ , and greater than about 15% of the particles have a diameter of less than 1.375  $\mu\text{m}$ ;

- c) a median particle diameter of less than about 4.0  $\mu\text{m}$ ; and
- d) a range of particle diameters of from about 0.1  $\mu\text{m}$  to about 70  $\mu\text{m}$  [.] and  
wherein the said processing comprises grinding with a fluidized bed grinding process  
using a ratio of one part unfractionated fly ash with four parts grinding media (by volume).

16. (Canceled)

17. (Currently amended) The fly ash of claim [16] 15 wherein the grinding media is zirconium silicate.

18. (Currently amended) The fly ash of claim [16] 15 wherein the grinding media is carbon steel.

19. (Previously presented) A concrete comprising about 1 part by weight cementitious materials, about 1 to about 3 parts by weight fine aggregate, about 1 to about 5 parts by weight coarse aggregate, and about 0.35 to about 0.6 parts by weight water, wherein the cementitious materials comprise from about 10% to about 50% by weight the fly ash of claim 15 and about 50% to about 90% by weight cement.

20. (Previously presented) The concrete of Claim 19, further comprising silica fume.

21. (Previously presented) The concrete of Claim 19, further comprising glass fibers.

22. (Previously presented) A concrete comprising about 1 part by weight cementitious materials, about 1 to about 3 parts by weight fine aggregate, about 1 to about 5 parts by weight coarse aggregate, and about 0.35 to about 0.6 parts by weight water, wherein the cementitious materials comprise from about 10% to about 50% by weight the fly ash of claim 17 and about 50% to about 90% by weight cement.
23. (Previously presented) The concrete of claim 22 further comprising silica fume.
24. (Previously presented) The concrete of claim 22 further comprising glass fibers.
25. (Previously presented) A mortar comprising about 1 part by weight cementitious materials, about 1 to about 3 parts by weight fine aggregate, and about 0.35 to about 0.6 parts by weight water, wherein the cementitious materials comprise from about 10% to about 50% by weight the fly ash of claim 15 and about 50% to about 90% by weight cement.
26. (Previously presented) A mortar comprising about 1 part by weight cementitious materials, about 1 to about 3 parts by weight fine aggregate, and about 0.35 to about 0.6 parts by weight water, wherein the cementitious materials comprise from about 10% to about 50% by weight the fly ash of claim 17 and about 50% to about 90% by weight cement.
27. (Previously presented) The mortar of claim 26 further comprising silica fume.

28. (Previously presented) The mortar of claim 26 further comprising glass fibers.
29. (Currently amended) A method for preparing fly ash comprising processing fly ash so as to shift the size distribution to have the following characteristics:
- a) substantially uniform spherical shape;
  - b) greater than about 90% of the particles have a diameter of less than 11  $\mu\text{m}$ , greater than about 60% of the particles have a diameter of less than 5.5  $\mu\text{m}$ , and greater than about 15% of the particles have a diameter of less than 1.375  $\mu\text{m}$ ;
  - c) a median particle diameter of less than about 4.0  $\mu\text{m}$ ; and
  - d) a range of particle diameters of from about 0.1  $\mu\text{m}$  to about 70  $\mu\text{m}$  [.] and wherein said processing comprises grinding with a fluidized bed grinding process using a ratio of one part unfractionated fly ash with four parts grinding media (by volume).
30. (Canceled)
31. (Currently amended) The method according to claim [30] 29, wherein the grinding media is zirconium silicate.
32. (Currently amended) The method according to claim [30] 29, wherein the grinding media is carbon steel.
33. (Previously presented) The method according to claim 29 wherein the fly ash is dry bottom boiler fly ash.

34. (Previously presented) The method according to claim 29 wherein the fly ash is wet bottom boiler fly ash.
35. (Currently amended) Fly ash prepared by processing fly ash so as to shift the size distribution to have the following characteristics:
- a) substantially uniform spherical shape;
  - b) greater than about 90% of the particles have a diameter of less than 12  $\mu\text{m}$ , greater than about 50% of the particles have a diameter of less than 5  $\mu\text{m}$ , and greater than about 15% of the particles have a diameter of less than 2.3  $\mu\text{m}$ ;
  - c) a median particle diameter of less than about 6.0  $\mu\text{m}$ ; and
  - d) a range of particle diameters of from about 0.78  $\mu\text{m}$  to about 30  $\mu\text{m}$ [.]; and wherein said processing comprises grinding the fly ash with a grinding medium in a non-expanded bed, and the volume of fly ash is less than the void volume of the grinding medium.
36. (Canceled)
37. (Currently amended) The fly ash of Claim [36] 35, wherein the ratio of fly ash to grinding medium is about 1 part fly ash to about 4 parts grinding medium, by volume.
38. (Currently amended) The fly ash of Claim [36] 35, wherein the ratio of fly ash to grinding medium is about 1 part fly ash to about 18 parts grinding medium, by weight.

39. (Currently amended) The fly ash of claim [36] 35 wherein the grinding media comprises carbon steel or stainless steel.
40. (Previously presented) A concrete comprising about 1 part by weight cementitious materials, about 1 to about 3 parts by weight fine aggregate, about 1 to about 5 parts by weight coarse aggregate, and about 0.35 to about 0.6 parts by weight water, wherein the cementitious materials comprise from about 10% to about 50% by weight the fly ash of claim 35 and about 50% to about 90% by weight cement.
41. (Previously presented) The concrete of Claim 40, further comprising silica fume, glass fibers, or a combination thereof.
42. (Currently amended) A concrete comprising about 1 part by weight cementitious materials, about 1 to about 3 parts by weight fine aggregate, about 1 to about 5 parts by weight coarse aggregate, and about 0.35 to about 0.6 parts by weight water, wherein the cementitious materials comprise from about 10% to about 50% by weight of the fly ash of claim [36] 35 and about 50% to about 90% by weight cement.
43. (Previously presented) The concrete of Claim 42, wherein the ratio of fly ash to grinding medium is about 1 part fly ash to about 4 parts grinding medium, by volume.
44. (Previously presented) The concrete of Claim 42, wherein the ratio of fly ash to grinding medium is about 1 part fly ash to about 18 parts grinding medium, by weight.



45. (Previously presented) The concrete of Claim 42, wherein the grinding medium comprises carbon steel.
46. (Previously presented) The concrete of Claim 42, further comprising silica fume, glass fibers, or a combination thereof.
47. (Previously presented) A mortar comprising about 1 part by weight cementitious materials, about 1 to about 3 parts by weight fine aggregate, and about 0.35 to about 0.6 parts by weight water, wherein the cementitious materials comprise from about 10% to about 50% by weight the fly ash of claim 35 and about 50% to about 90% by weight cement.
48. (Currently amended) A mortar comprising about 1 part by weight cementitious materials, about 1 to about 3 parts by weight fine aggregate, and about 0.35 to about 0.6 parts by weight water, wherein the cementitious materials comprise from about 10% to about 50% by weight of the fly ash of claim [36] 35 and about 50% to about 90% by weight cement.
49. (Previously presented) The mortar of Claim 48, wherein the ratio of fly ash to grinding medium is about 1 part fly ash to about 4 parts grinding medium by volume.
50. (Previously presented) The mortar of Claim 48, wherein the ratio of fly ash to grinding medium is about 1 part fly ash to about 18 parts grinding medium, by weight.

51. (Previously presented) The mortar of Claim 48, wherein the grinding medium is carbon steel.
52. (Previously presented) The mortar of Claim 48, wherein the grinding medium is stainless steel.
53. (Previously presented) The mortar of Claim 48, further comprising silica fume, glass fibers, or a combination thereof.
54. (Currently amended) A method for preparing fly ash comprising processing fly ash so as to shift the size distribution to have the following characteristics:
- a) substantially uniform spherical shape;
  - b) greater than about 90% of the particles have a diameter of less than 12  $\mu\text{m}$ , greater than about 50% of the particles have a diameter of less than 5  $\mu\text{m}$ , and greater than about 15% of the particles have a diameter of less than 2.3  $\mu\text{m}$ ;
  - c) a median particle diameter of less than about 6.0  $\mu\text{m}$ ; and
  - d) a range of particle diameters of from about 0.78  $\mu\text{m}$  to about 30  $\mu\text{m}$ [.]; and  
wherein said method comprising grinding the fly ash with a grinding medium in a non-expanded bed, wherein the volume of fly ash is less than the void volume of the grinding medium.
55. (Canceled)

56. (Currently amended) The method of Claim [55] 54, wherein the ratio of fly ash to grinding medium is about 1 part fly ash to about 4 parts grinding medium, by volume.
57. (Currently amended) The method of Claim [55] 54, wherein the ratio of fly ash to grinding medium is about 1 part fly ash to about 18 parts grinding medium, by weight.
58. (Currently amended) The method of Claim [55] 54, wherein the grinding medium comprises stainless steel.
59. (Currently amended) The method of Claim [55] 54, wherein the grinding medium comprises carbon steel.
60. (Previously amended) The method of Claim 54, wherein the fly ash is dry bottom boiler fly ash.
61. (Previously amended) The method of Claim 54, wherein the fly ash is wet bottom boiler fly ash.

**IN THE DRAWINGS:**

Replacement drawings are attached for all of Figures 1-23. With respect to Figures 13 through 23 a copy set of the original figures 13-23 is appended which are marked to show the changes in same which are to be found in the replacement drawings Figures 13 through 23.